



Commission for Environmental Cooperation of North America

Comisión para la Cooperación Ambiental de América del Norte

Commission de Coopération Environnementale de l'Amérique du Nord

# **Final report on the Implementation of the North American Regional Action Plan on Chlordane**

**March 2001**

## **Executive Summary**

### **Objective**

This report summarizes actions to be taken and progress to date in implementing the North American Regional Action Plan on Chlordane (NARAP-Chlordane). The objective of that NARAP is to reduce human and environmental exposure to this compound through discontinuation of its currently authorized uses.

### **Background**

In October 1995, under the auspices of the North American Agreement on Environmental Cooperation signed by Canada, Mexico and the United States as a side agreement to the North American Free Trade Agreement (NAFTA), the environment ministers of the three countries adopted Resolution 95-05, on cooperation to achieve environmentally sound management of chemicals in North America and an equal level of protection for all the region's inhabitants and ecosystems.

In order to put the resolution into practice, it was agreed to design and implement regional action plans to reduce the use and the release into the environment of certain persistent, toxic and bioaccumulative substances and, where possible, to eliminate them entirely. Among these was chlordane. It was agreed that in defining the actions to be taken, each country would take account of its own circumstances, priorities and resources.

### **Specific Actions for the Three Countries**

Canada and the United States have offered to provide Mexico with risk assessment information on chemical and biological alternatives identified as viable substitutes for chlordane.

Canada and the United States have agreed to continue supporting chlordane-inclusive hazardous waste collection programs; information about how these programs operate will be shared with Mexico.

Canada, the United States and Mexico have agreed to work within the existing framework of international cooperation to reduce or cease the use of chlordane and to share the experience obtained in developing and implementing the Regional Action Plan with other countries of Central America and other regions.

### **Actions Planned for Mexico**

Mexico has agreed to establish a normative three-phase program, including, but not limited to the following points:

#### **Phase I:**

- Develop an integrated control strategy to motivate those participating to develop control measures and to identify safer, effective alternatives to chlordane.

- Suspend imports
  - notify customs authorities and
  - control the sale and use of chlordane.
- Broadcast information over various media mentioning the purposes and actions taken as part of this NARAP.

**Phase II:**

- Conduct environmental monitoring and assessment.
- Monitor existing stocks.
- Prohibit the sale of the active ingredient once its registration is cancelled.

**Phase III:**

- Cancel the registration of the active ingredient in accordance with the legal procedure prescribed in the General Law on Health (*Ley General de Salud*).
- Collect chlordane-containing hazardous waste.
- Notify the United Nations.

**Cooperative Actions**

Canada and the United States will work closely with Mexico in providing available risk assessments for those alternatives to chlordane (chemical and biological) identified as likely candidates. In the longer term, ongoing efforts through the NAFTA Technical Working Group on Pesticides will help strengthen the capabilities of the Mexican authorities in the area of pesticide assessment and management.

**Results**

- The use and production of chlordane in North America was eliminated through discontinuation of imports of the substance and cancellation of its registration in Mexico, as well as through permanent cessation of its production in the United States.
- Mexico's institutional capacities in the areas of environmental chemical monitoring and analysis were strengthened in terms of information systems on priority toxic substances and actions to reduce the risks of toxic substances.
- Design and implementation of a chlordane sampling and analysis plan in Mexico was included among the actions to be taken under the Regional Action Plan on Monitoring and Assessment to be defined in the near future.

## **Diagnosis**

### **Status of Chlordane in the Three Countries**

#### ***Canada***

Chlordane was first registered in Canada in 1949 for control of insect pests in agricultural crops and forests, as well as for domestic and industrial applications, but it was never produced in the country. Due to environmental concerns, almost all authorized uses were suspended in 1985, with the exception of underground termite treatment by authorized pest control personnel. This last use was voluntarily discontinued by the registrant in 1990, and remaining stocks were to be sold, used or disposed of by year-end 1995. Since that time, both the sale and use of this compound in Canada represent an offence under the *Pest Control Products Act*. In addition, the Importation for Manufacturing and Export Program prohibits the importation of chlordane for the purposes of reformulation and subsequent exportation.

Environmental and biological sampling of various animal species has shown that chlordane is a ubiquitous pollutant in Canada which, due to its persistence, still represents a considerable exposure hazard.

#### ***United States***

There are no US registrations for chlordane, which means it cannot be imported or used for pest control purposes. Regulatory actions related to chlordane use in agriculture began in 1978, and by 1995 all registrations of other uses (including as a termiticide) were terminated.

However, chlordane continued to be produced in the United States for export until 1999, when the sole manufacturer announced that it had voluntarily stopped production and agreed not to make its proprietary technology for manufacturing chlordane available to any other company.

#### ***Mexico***

In Mexico, chlordane was used in the 1970s for pest management in corn and sorghum. However, because of its persistence and toxicity, its uses were restricted in 1988 to termite control in urban areas. This pesticide was never produced in the country; it was imported from the United States as a technical product.

Under the General Law on Health, the Ministry of Health (*Secretaría de Salud*) is the body responsible for pesticide registration in Mexico. It fulfils this responsibility in coordination with the Ministries of Environment and Natural Resources (*Secretaría de Medio Ambiente y Recursos Naturales*—Semarnat); Agriculture, Animal Husbandry and Rural Development (*Agricultura, Ganadería y Desarrollo Rural*); and Trade and Industrial Development (*Comercio y Fomento Industrial*) under the auspices of the Intersecretarial Commission for the Control of the Process and Use of Pesticides, Fertilizers and Toxic Substances (*Comisión Intersecretarial para el Control del Proceso y Uso de Plaguicidas, Fertilizantes y Sustancias Tóxicas*—Cicoplafest).

Nonregistration or cancellation of registration means that a pesticide product cannot be imported, produced, marketed or used in the country. The Official Catalogue of Pesticides (*Catálogo Oficial de Plaguicidas*) is the basic reference for ascertaining the pesticides registered in Mexico and their authorized uses. In the Catalogue, chlordane is listed as restricted to use as a termiticide with twelve different formulations, all produced by a single formulating company.

There is little data available on the amplitude of the contamination or on the degree of human or biotic exposure to chlordane.

### ***Actions Taken by Mexico***

- In 1996, communication was established with the Cicoplafest to determine the status of the pesticide in the country and the steps to be taken.
- In 1996, contact was made with the importing and formulating company of the chlordane-based termiticides, with a view to arranging for the suspension of imports and the cancellation of the product's registration once the remaining stocks in the country were used up.
- With the object of obtaining more information on the uses, volumes, sites at which chlordane was applied, methods of application, types of equipment, the termite control experts of the country's two pest controllers' associations were contacted. This led to a preliminary diagnosis for discussion by academic experts, civil society groups, industry, pest controllers and government bodies.
- A list of researchers working in Mexico on topics related to termites and their control was compiled (Appendix 2 of the NARAP on chlordane), while health and environmental information was compiled at the *Instituto de Biología, Limnología y Ciencias del Mar*, the Faculty of Science and Medicine of the *Universidad Nacional Autónoma de México*, the National School of Biological Sciences of the *Instituto Politécnico*, the School of Medicine of the *Universidad Autónoma Metropolitana* and various departments of the *Universidad Autónoma de Chapingo*.
- In 1996, the pamphlet *Todo lo que usted debe saber sobre el Clordano y su situación en América del Norte* ("Everything you need to know about chlordane and its status in North America") (Appendix 1 of the NARAP) was published. Simultaneously, the information was published on the Web page of the National Institute of Ecology (*Instituto Nacional de Ecología—INE*) in the section on the NARAP-Chlordane.
- In 1997, a workshop on chemical and biological pesticides for termite control was held, with attendees from research and regulatory agencies and industry groups (Appendix 2 of the NARAP).
- A workshop was held in McAllen, Texas, United States, bringing together researchers working on pesticides, chlordane in particular, as well as representatives of the pest controllers' associations (Appendix 4 of the NARAP).
- As part of pesticide-related activities undertaken by Mexico and the United States, and under the auspices of NAFTA, alternative termite control methods and possible substitutes for chlordane

were evaluated (Appendix 5 of the NARAP).

The design and implementation of chlordane sampling in zones where it had been applied abundantly remained pending. This action could be included in the Regional Action Plan on Monitoring and Assessment.

The Commission for Environmental Cooperation partially funded the above-mentioned activities undertaken in Mexico.

## Conclusions

The North American Regional Action Plan on Chlordane can be considered to be a successful trilateral cooperation exercise designed to curtail the release into the environment of a toxic, persistent and bioaccumulative substance on a regional level.

The experience acquired by Mexico in carrying out this plan and in building its institutional capacities can be shared with other countries seeking to phase out substances of this type under similar conditions.

This experience centers around the development and implementation of a Program for the Management of Priority Toxic Substances, which included the following items:

- **Systematization of information.** In Mexico, data on pesticide production, import and export, use, final disposal of empty containers and expired products, among other information, is dispersed among various non-compatible or legacy electronic formats. Therefore, one of the initial actions taken to deal with the problem of chlordane, and ultimately that of other pesticides and toxic substances, was to design and implement a project on National Capacity Building for Information to Support Chemical Management Decision-Making.
- **Laboratory analysis.** It was considered necessary to build analytical capacity in the area of pesticides and other persistent toxic substances, with the goal of generating reliable, comparable data. For this purpose, two projects were initiated: Determination of Analysis Methods for Priority Toxic Substances in Mexico and a Laboratory Intercomparability Program.
- **Training.** Pilot training courses were given on implementing the environmental management program for priority toxic substances and supporting the implementation of NARAP-Chlordane. The courses were given in two regions of Mexico, comprising 14 states. More than 100 people attended from government, industry, academia and civil society organizations. In early 2000, a document was sent to press and published on the Internet to promote prevention and reduction of environmental chemical risks; this document included information on chlordane.
- **Distribution of the Information.** It was considered strategic to develop simple materials with the goal of disseminating information on chlordane to a broad and diverse audience so as to publicize Mexico's decision to cease using chlordane and to promote possible substitutes.